

IN THE CLAIMS

1. (Currently Amended) An apparatus for compressing data, comprising:

a cell site element associated with a base transceiver station and operable to receive a packet communicated by a mobile station and to extract a high-level data link control (HDLC) payload from the packet, wherein the cell site element is further operable to perform a compression process on the HDLC payload in order to reduce a number of bytes associated with the packet, the cell site element being further operable to build a key that maps the HDLC payload associated with the packet to the key, the key being broken into segments that are positioned into ~~a selected one or more of~~ a source internet protocol (IP) address field, a user datagram protocol (UDP) source port field, and a UDP destination port field of a UDP packet, the UDP packet being sent to a routing functionality of the cell site element such that it may be directed to a next destination.

2. (Original) The apparatus of Claim 1, wherein the cell site element is operable to construct the UDP packet, and wherein remaining fields of the HDLC payload may be copied and positioned into a payload field of the UDP packet.

3. (Original) The apparatus of Claim 1, further comprising:

an aggregation node associated with a base station controller and operable to receive a point to point protocol (PPP) over HDLC packet that corresponds to the UDP packet from the cell site element.

4. (Original) The apparatus of Claim 1, wherein the routing functionality receives the UDP packet and selects an outgoing interface to direct the packet, the outgoing interface operable to add a layer-two encapsulation and to perform a layer-two compression operation on the UDP packet.

5. (Original) The apparatus of Claim 4, wherein the routing functionality implements a compressed UDP (cUDP) and a PPP multiplex protocol in order to compress the UDP packet.

6. (Original) The apparatus of Claim 5, wherein the UDP packet may be demultiplexed into one or more individual cUDP packets.

7. (Original) The apparatus of Claim 6, further comprising:

a cUDP compressor operable to utilize one or more context IDs in order to resolve them into a UDP/IP header such that an original source IP field and original UDP source and destination fields may be restored for a reconstructed HDLC packet.

8. (Currently Amended) A method for compressing data, comprising:

receiving a packet communicated by a mobile station;

extracting a high-level data link control (HDLC) payload from the packet;

performing a compression process on the HDLC payload in order to reduce a number of bytes associated with the packet;

building a key that maps the HDLC payload associated with the packet to the key, the key being broken into segments that are positioned into ~~a selected one or more of~~ a source internet protocol (IP) address field, a user datagram protocol (UDP) source port field, and a UDP destination port field of a UDP packet; and

communicating the UDP packet to a routing functionality such that it may be directed to a next destination.

9. (Original) The method of Claim 8, further comprising:

constructing the UDP packet, wherein remaining fields of the HDLC payload may be copied and positioned into a payload field of the UDP packet.

10. (Original) The method of Claim 8, further comprising:

receiving a point to point protocol (PPP) over HDLC packet that corresponds to the UDP packet.

11. (Original) The method of Claim 8, wherein the routing functionality receives the UDP packet and selects an outgoing interface to direct the packet, the outgoing interface operable to add a layer-two encapsulation and to perform a layer-two compression operation on the UDP packet.

12. (Original) The method of Claim 8, further comprising:  
implementing a compressed UDP (cUDP) and a PPP multiplex protocol in order to compress the UDP packet.

13. (Original) The method of Claim 12, further comprising:  
demultiplexing the UDP packet into one or more individual cUDP packets.

14. (Original) The method of Claim 13, further comprising:  
utilizing one or more context IDs in order to resolve them into a UDP/IP header such that an original source IP field and original UDP source and destination fields may be restored for a reconstructed HDLC packet.

15. (Currently Amended) A system for compressing data, comprising:  
means for receiving a packet communicated by a mobile station;  
means for extracting a high-level data link control (HDLC) payload from the packet;  
means for performing a compression process on the HDLC payload in order to reduce a number of bytes associated with the packet;

means for building a key that maps the HDLC payload associated with the packet to the key, the key being broken into segments that are positioned into ~~a selected one or more of~~ a source internet protocol (IP) address field, a user datagram protocol (UDP) source port field, and a UDP destination port field of a UDP packet; and

means for communicating the UDP packet to a routing functionality such that it may be directed to a next destination.

16. (Original) The system of Claim 15, further comprising:  
means for constructing the UDP packet, wherein remaining fields of the HDLC payload may be copied and positioned into a payload field of the UDP packet.

17. (Original) The system of Claim 15, further comprising:  
means for receiving a point to point protocol (PPP) over HDLC packet that corresponds to the UDP packet.

18. (Original) The system of Claim 15, wherein the routing functionality receives the UDP packet and selects an outgoing interface to direct the packet, the outgoing interface operable to add a layer-two encapsulation and to perform a layer-two compression operation on the UDP packet.

19. (Original) The system of Claim 15, further comprising:  
means for implementing a compressed UDP (cUDP) and a PPP multiplex protocol in order to compress the UDP packet.

20. (Original) The system of Claim 19, further comprising:  
means for demultiplexing the UDP packet into one or more individual cUDP packets.

21. (Original) The system of Claim 20, further comprising:  
means for utilizing one or more context IDs in order to resolve them into a UDP/IP header such that an original source IP field and original UDP source and destination fields may be restored for a reconstructed HDLC packet.

22. (Currently Amended) Software for compressing data, the software being embodied in a computer readable medium and comprising code such that when executed is operable to:

receive a packet communicated by a mobile station;  
extract a high-level data link control (HDLC) payload from the packet;  
perform a compression process on the HDLC payload in order to reduce a number of bytes associated with the packet;

build a key that maps the HDLC payload associated with the packet to the key, the key being broken into segments that are positioned into ~~a selected one or more of~~ a source internet protocol (IP) address field, a user datagram protocol (UDP) source port field, and a UDP destination port field of a UDP packet; and

communicate the UDP packet to a routing functionality such that it may be directed to a next destination.

23. (Original) The medium of Claim 22, wherein the code is further operable to:  
construct the UDP packet, wherein remaining fields of the HDLC payload may be  
copied and positioned into a payload field of the UDP packet.

24. (Original) The medium of Claim 22, wherein the code is further operable to:  
receive a point to point protocol (PPP) over HDLC packet that corresponds to the  
UDP packet.

25. (Original) The medium of Claim 22, wherein the routing functionality receives  
the UDP packet and selects an outgoing interface to direct the packet, the outgoing interface  
operable to add a layer-two encapsulation and to perform a layer-two compression operation  
on the UDP packet.

26. (Original) The medium of Claim 22, wherein the code is further operable to:  
implement a compressed UDP (cUDP) and a PPP multiplex protocol in order to  
compress the UDP packet.

27. (Original) The medium of Claim 22, wherein the code is further operable to:  
demultiplex the UDP packet into one or more individual cUDP packets.

28. (Original) The medium of Claim 22, wherein the code is further operable to:  
utilize one or more context IDs in order to resolve them into a UDP/IP header such that  
an original source IP field and original UDP source and destination fields may be restored  
for a reconstructed HDLC packet.